

What is claimed is:

1. A method comprising:
 - (A) moving a fluid in a first direction;
 - (B) changing a direction of a portion of the fluid flowing in the first direction and establishing a first rotational flow pattern, the first rotational flow pattern tangentially intersecting the fluid moving in the first direction.
2. A method according to claim 1, wherein moving the fluid in the first direction comprises moving the fluid in a second rotational flow pattern, the first rotational flow pattern rotating in a direction opposite to the second rotational flow pattern.
3. A method according to claim 2, wherein a radius of the second rotational flow pattern is greater than a radius of the first rotational flow pattern.
4. A method according to claim 1, wherein changing the direction of the portion of the fluid causes repeated molecular collisions between fluid flowing in the first rotational flow pattern and fluid moving in the first direction.
5. A method according to claim 4, wherein the repeated molecular collisions increases the temperature of fluid flowing in the first rotational flow pattern.
6. A method according to claim 4, wherein the repeated molecular collisions increases the pressure of fluid flowing in the first rotational flow pattern.
7. A method according to claim 4, wherein the repeated molecular collisions increases the density of fluid flowing in the first rotational flow pattern.

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8. A method of heating a fluid, the method comprising:
- (A) moving at least some of the fluid in a first direction;
 - (B) changing a direction of at least a portion of the fluid moving in the first direction and establishing a first rotational flow pattern, some of the fluid moving in the first direction intersecting the first rotational flow pattern, collisions between molecules of the fluid flowing in the first rotational flow pattern and molecules of the fluid flowing in the first direction generating heat.
9. A method according to claim 8, wherein the fluid comprises a first substance and a second substance, an evaporation point of the first substance being higher than an evaporation point of the second substance, the method further comprising moving the fluid until a temperature of the fluid is between the evaporation points of the first and second substances.
10. A method according to claim 9, further including evaporating at least some of the second substance.
11. A method according to claim 8, wherein the fluid comprises a first chemical compound, said collisions separating at least some of said first chemical compound into a second chemical compound and a third chemical compound.
12. A method according to claim 11, an evaporation point of the second chemical compound being higher than an evaporation point of the third chemical compound, the method further comprising moving the fluid until a temperature of the fluid is between the evaporation points of the second and third chemical compounds.

13. A method according to claim 12, further including evaporating at least some of the third chemical compound.
14. A method according to claim 11, further comprising exposing said first chemical compound to a catalyst.
15. A method according to claim 8, further comprising selectively varying a rate of movement of fluid moving in the first direction.
16. An apparatus including:
 (A) means for moving a fluid so that the fluid flows in a first flow pattern;
 (B) means for receiving a portion of the fluid flowing in the first flow pattern and for changing a flow direction of said portion and thereby establishing a first rotational flow pattern, the first rotational flow pattern tangentially intersecting the first flow pattern.
17. An apparatus according to claim 16, the means for moving a fluid comprising a rotating drum.
18. An apparatus according to claim 17, the means for receiving a portion of the fluid comprising one or more curved channels disposed proximal the drum.
19. An apparatus according to claim 16, wherein molecules of fluid flowing in the first rotational flow pattern repeatedly collide with molecules of fluid flowing in the first flow pattern.

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26. An apparatus according to claim 24, further comprising a valve for selectively controlling a flow of fluid in said fluid inlet.
27. An apparatus according to claim 24, further comprising a fluid outlet for removing fluid from the space between the outer wall of the rotor and the inner wall of the stator.
28. An apparatus according to claim 27, further comprising a valve for selectively controlling a flow of fluid in said fluid outlet.
29. An apparatus according to claim 24, wherein rotation of the rotor establishes a flow pattern within at least one of the collider chambers.
30. An apparatus according to claim 29, wherein said flow pattern is rotational.
31. An apparatus according to claim 24, further including means for permitting evaporation of a portion of the fluid when a temperature of the fluid is greater than an evaporation point of the portion.
32. An apparatus according to claim 24, further including means for selectively controlling a rotation rate of the rotor.

